

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-33 (Canceled).

Claim 34 (New): An image data processing apparatus comprising:

an image data storing unit that stores image data;

a spatial filter processing unit that applies spatial filter processing, in which a dynamic range for output is set wider than a dynamic range for input, to the image data stored in the image data storing unit;

a resolution increase processing unit that applies resolution conversion processing for converting a present resolution into a resolution higher than the present resolution to the image data after the spatial filter processing by the spatial filter processing unit;

a gamma correction unit that applies gamma correction processing to the image data after the resolution conversion processing by the resolution increase processing unit; and

a transmitting unit that sends the image data after the gamma correction processing by the gamma correction unit to an external apparatus.

Claim 35 (New): The image data processing apparatus according to Claim 34, further comprising a resolution reduction processing unit that applies resolution conversion processing for converting a present pixel density into a pixel density lower than the present pixel density to the image data after the processing by the gamma correction unit.

Claim 36 (New): The image data processing apparatus according to claim 35,

wherein

the resolution reduction processing unit converts a resolution of the image data into a resolution before the resolution conversion processing by the resolution increase processing unit.

Claim 37 (New): The image data processing apparatus according to Claim 34, further comprising a format converting unit that converts the image data to be sent by the transmitting unit into a general-purpose format that can be inspected in the external apparatus.

Claim 38 (New): The image data processing apparatus according to Claim 34, wherein

the resolution increase processing unit performs the resolution conversion processing only for a main scanning direction.

Claim 39 (New): The image data processing apparatus according to Claim 34, wherein

the resolution increase processing unit performs resolution conversion processing for converting a resolution into a resolution obtained by multiplying the present resolution by an integer equal to or larger than two.

Claim 40 (New): The image data processing apparatus according to Claim 34, wherein

the resolution increase processing unit performs resolution conversion processing for converting image data with a resolution of 600 dpi into image data with a resolution of 1200 dpi.

Claim 41 (New): An image data processing apparatus comprising:  
an image data storing unit that stores image data;  
a resolution increase processing unit that applies resolution conversion processing for converting a present resolution into a resolution higher than the present resolution to the image data stored in the image data storing unit;  
a spatial filter processing unit that applies spatial filter processing to the image data after the resolution conversion processing by the resolution increase processing unit;  
a gamma correction unit that applies gamma correction processing to the image data after the spatial filter processing by the spatial filter processing unit;  
a resolution reduction processing unit that applies resolution conversion processing for converting a present resolution into a resolution lower than the present resolution to the image data after the gamma correction processing by the gamma correction unit; and  
a transmitting unit that sends the image data after the resolution conversion processing by the resolution reduction processing unit to an external apparatus.

Claim 42 (New): The image data processing apparatus according to claim 41, wherein  
the resolution reduction processing unit converts a resolution of the image data into a resolution before the resolution conversion processing by the resolution increase processing unit.

Claim 43 (New): The image data processing apparatus according to claim 41, further comprising a format converting unit that converts the image data to be sent by the transmitting unit into a general-purpose format that can be inspected in the external apparatus.

Claim 44 (New): The image data processing apparatus according to claim 41, wherein the resolution increase processing unit performs the resolution conversion processing only for a main scanning direction.

Claim 45 (New): The image data processing apparatus according to claim 41, wherein the resolution increase processing unit performs resolution conversion processing for converting a resolution into a resolution obtained by multiplying the present resolution by an integer equal to or larger than two.

Claim 46 (New): The image data processing apparatus according to claim 41, wherein the resolution increase processing unit performs resolution conversion processing for converting image data with a resolution of 600 dpi into image data with a resolution of 1200 dpi.

Claim 47 (New): An image data processing method comprising:  
applying spatial filter processing, in which a dynamic range for output is set wider than a dynamic range for input, to image data to be input;

applying resolution conversion processing for converting a density into a high density to the image data after the spatial filter processing;

applying gamma correction processing to the image data after the resolution conversion processing; and

sending the image data after the gamma correction processing to an external apparatus.

Claim 48 (New): The image data processing method according to claim 47, further comprising applying resolution conversion processing for converting a present resolution into a resolution lower than the present resolution to the image data after performing the gamma correction processing.

Claim 49 (New): The image data processing method according to claim 48, further comprising converting a resolution of the image data into a resolution before performing the resolution conversion processing for converting a resolution into a high resolution by the resolution conversion processing for converting a resolution into a low resolution.

Claim 50 (New): The image data processing method according to claim 47, further comprising converting the image data to be sent at the sending into a general-purpose format that can be inspected in the external apparatus.

Claim 51 (New): The image data processing method according to claim 47, wherein the resolution conversion processing includes performing the resolution conversion processing only for a main scanning direction.

Claim 52 (New): The image data processing method according to claim 47, wherein the resolution conversion processing includes performing the resolution conversion processing for converting a resolution into a resolution obtained by multiplying a present resolution by an integer equal to or larger than two.

Claim 53 (New): The image data processing method according to claim 47, wherein the resolution conversion processing includes performing the resolution conversion processing for converting image data with a resolution of 600 dpi into image data with a resolution of 1200 dpi.

Claim 54 (New): An image data processing method comprising:  
applying resolution conversion processing for converting a resolution into a high resolution to image data to be input;  
applying spatial filter processing to the image data after the resolution conversion processing;  
applying gamma correction processing to the image data after the spatial filter processing;  
applying resolution conversion processing for converting a present resolution into a resolution lower than the present resolution to the image data after the gamma correction processing; and  
sending the image data after the resolution conversion processing to an external apparatus.

Claim 55 (New): The image data processing method according to claim 54, further comprising converting a resolution of the image data into a resolution before performing the

- resolution conversion processing for converting a resolution into a high resolution by the
- resolution conversion processing for converting a resolution into a low resolution.

Claim 56 (New): The image data processing method according to claim 54, further comprising converting the image data to be sent at the sending into a general-purpose format that can be inspected in the external apparatus.

Claim 57 (New): The image data processing method according to claim 54, wherein the resolution conversion processing includes performing the resolution conversion processing only for a main scanning direction.

Claim 58 (New): The image data processing method according to claim 54, wherein the resolution conversion processing includes performing the resolution conversion processing for converting a resolution into a resolution obtained by multiplying the present resolution by an integer equal to or larger than two.

Claim 59 (New): The image data processing method according to claim 54, wherein the resolution conversion processing includes performing the resolution conversion processing for converting image data with a resolution of 600 dpi into image data with a resolution of 1200 dpi.

Claim 60 (New): A computer program that includes instructions which when executed on a computer cause the computer to execute:

applying spatial filter processing, in which a dynamic range for output is set wider than a dynamic range for input, to image data to be input;

applying resolution conversion processing for converting a density into a high density to the image data after the spatial filter processing;

applying gamma correction processing to the image data after the resolution conversion processing; and

sending the image data after the gamma correction processing to an external apparatus.

Claim 61 (New): The computer program according to claim 60, further comprising applying resolution conversion processing for converting a present resolution into a resolution lower than the present resolution to the image data after the gamma correction processing.

Claim 62 (New): The computer program according to claim 61, further comprising converting a resolution of the image data into a resolution before performing the resolution conversion processing for converting a resolution into a high resolution by the resolution conversion processing for converting a resolution into a low resolution.

Claim 63 (New): The computer program according to claim 60, further comprising converting the image data to be sent at the sending into a general-purpose format that can be inspected in the external apparatus.

Claim 64 (New): The computer program according to claim 60, wherein the resolution conversion processing includes performing the resolution conversion processing only for a main scanning direction.



Claim 65 (New): The computer program according to claim 60, wherein  
the resolution conversion processing includes performing the resolution conversion processing for converting a resolution into a resolution obtained by multiplying a present resolution by an integer equal to or larger than two.

Claim 66 (New): The computer program according to claim 60, wherein  
the resolution conversion processing includes performing the resolution conversion processing for converting image data with a resolution of 600 dpi into image data with a resolution of 1200 dpi.

Claim 67 (New): A computer readable recording medium having recorded therein a computer program that includes instructions which when executed on a computer cause the computer to execute:

applying spatial filter processing, in which a dynamic range for output is set wider than a dynamic range for input, to image data to be input;

applying resolution conversion processing for converting a density into a high density to the image data after the spatial filter processing;

applying gamma correction processing to the image data after the resolution conversion processing; and

sending the image data after the gamma correction processing to an external apparatus.

Claim 68 (New): A computer program that includes instructions which when executed on a computer cause the computer to execute:

applying resolution conversion processing for converting a resolution into a high resolution to image data to be input;

applying spatial filter processing to the image data after the resolution conversion processing;

applying gamma correction processing to the image data after the spatial filter processing;

applying resolution conversion processing for converting a present resolution into a resolution lower than the present resolution to the image data after the gamma correction processing; and

sending the image data after the resolution conversion processing to an external apparatus.

Claim 69 (New): The computer program according to claim 68, further comprising converting a resolution of the image data into a resolution before performing the resolution conversion processing for converting a resolution into a high resolution by the resolution conversion processing for converting a resolution into a low resolution.

Claim 70 (New): The computer program according to claim 68, further comprising converting the image data to be sent at the sending into a general-purpose format that can be inspected in the external apparatus.

Claim 71 (New): The computer program according to claim 68, wherein the resolution conversion processing includes performing the resolution conversion processing only for a main scanning direction.

Claim 72 (New): The computer program according to claim 68, wherein  
the resolution conversion processing includes performing the resolution conversion processing for converting a resolution into a resolution obtained by multiplying the present resolution by an integer equal to or larger than two.

Claim 73 (New): The computer program according to claim 68, wherein  
the resolution conversion processing includes performing the resolution conversion processing for converting image data with a resolution of 600 dpi into image data with a resolution of 1200 dpi.

Claim 74 (New): A computer readable recording medium having recorded therein a computer program that includes instructions which when executed on a computer cause the computer to execute:

applying resolution conversion processing for converting a resolution into a high resolution to image data to be input;

applying spatial filter processing to the image data after the resolution conversion processing;

applying gamma correction processing to the image data after the spatial filter processing;

applying resolution conversion processing for converting a present resolution into a resolution lower than the present resolution to the image data after the gamma correction processing; and

sending the image data after the resolution conversion processing to an external apparatus.

Claim 75 (New): An image reading apparatus connectable to an electric

communication line, comprising:

a spatial filter processing unit that performs spatial filter processing so as to expand a predetermined dynamic range read by the image reading apparatus and a dynamic range of an original data of a resolution;

a first resolution converting unit that converts the resolution of the original data for which the dynamic range is expanded into a density higher than a present pixel density, and converts the dynamic range of the original data of the resolution, for which the dynamic range is expanded and which is converted into a high density, to be brought back to the predetermined dynamic range;

a second resolution converting unit that converts the resolution of the original data of the high density resolution, for which the dynamic range is converted, to be brought back to the predetermined resolution; and

a transmitting unit that sends the original data of the resolution brought back to the predetermined resolution.

Claim 76 (New): The image reading apparatus according to claim 75, wherein

the spatial filter processing unit calculates a maximum tone of the original data after the spatial filter processing based on a spatial filter factor set in advance and expands the dynamic range of the original data to be equal to or more than the value.

Claim 77 (New): The image reading apparatus according to claim 75, wherein

the transmitting unit compresses the original data and sends the original data.

Claim 78 (New): The image reading apparatus according to claim 77, wherein the transmitting unit compresses the original data with reversible coding and sends the original data.

Claim 79 (New): The image reading apparatus according to claim 75, further comprising a tone processing unit that applies processing concerning a halftone to the original data.

Claim 80 (New): The image reading apparatus according to claim 79, wherein the tone processing unit performs processing for converting the original data of the resolution, for which the dynamic range is expanded and which is converted into a high density, into a halftone of two tones.

Claim 81 (New): The image reading apparatus according to claim 80, wherein the tone processing unit performs processing for dividing the original data of the resolution, for which the dynamic range is expanded and which is converted into a high density, to a maximum value and a minimum value of the dynamic range according to a predetermined threshold value and processing for converting the divided original data into a halftone of two tones.

Claim 82 (New): The image reading apparatus according to claim 75, further comprising a gamma correction processing unit that applies gamma correction processing to the original data.